

Final Evaluation Design and Implementation Plan

**Snow and Ice Hydrology
(Pakistan)**

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Table of Contents

1.0	Evaluation Design	
1.1	Introduction	5
1.2	The Evaluation Design	5
1.3	Evaluation Areas	9
1.4	The Stakeholder Groups	9
1.4.1	Management Group	9
1.4.2	WAPDA Project Implementing Staff Group	10
1.4.3	BCHIL Project Implementation Staff Group	11
2.0	Evaluation Timeline/Markers	13
3.0	Implementation of Evaluation Process	15
3.1	Introduction	15
3.2	Interviews	15
3.2.1	Interviews Structure	16
3.3	Focus Groups	18
3.3.1	Focus Group Structure	19
3.4	Evaluation Questionnaires	25
4.0	Data Analysis	31

Section 1: Evaluation Design

1.1 Introduction

The Evaluation Design and Implementation Plan (design) is derived from information received through:

- the SIHP-II Participatory Self-Evaluation Design Workshop held in Lahore, Pakistan, 1995 October 22 and 23¹
- numerous group and individual interviews held in Canada and Pakistan

The design continues the participatory self-evaluation process used in the Lahore Workshop. That is, throughout 1996 the Project stakeholders will take a major role in the collection and the interpretation of evaluation findings. The objective of this data and information collection process is:

- to promote stakeholder consensus regarding Project successes and challenges while ensuring an acceptable level of reporting reliability and validity.

1.2 The Evaluation Design

The design is intended to link the data and information acquisition process, and the evaluation outputs with the direct involvement of the Project stakeholders. Thus, a participatory self-evaluation design is open to all involved and the evaluation outputs are directly related to the time, effort and commitment by the stakeholders.

In addition, the traditional role of a "Project evaluator" is shifted to that of "evaluation monitor" wherein this individual, i.e. Lamoureux & Associates, guides the stakeholders in implementing the design.

There are three agents that hold primary responsibility for the implementation of the evaluation. They are:

- Pakistan and Canadian Advisory Committees
- Evaluation Team Leaders
- Evaluation Monitor (Lamoureux and Associates)

The evaluation process uses a combination of three approaches:

- interviews

- focus groups
- questionnaires

Each evaluation approach targets specific groups within the Project who can best reflect on the outcomes, successes and challenges of the SIHP-II Project.

Within the evaluation design Lamoureux and Associates (Lamoureux) and the Advisory Committee are designated:

- to ensure the timely and accurate collection of data
- to facilitate the involvement of stakeholders in the participatory self-evaluation process

This direct involvement allows the design to remain with those individuals who were part of the Project's development and have been involved, or are at present involved, in the implementation of the Project. Furthermore, the Advisory Committee can also be the catalyst that would adapt the participatory self-evaluation design within a follow-up project related to the present SIHP-II Project.

The Advisory Committee's primary functions will be to:

- liaise with Lamoureux while the design is being implemented, especially as the latter relates to the evaluation data and information collection methods
- designate and monitor the Evaluation Team Leaders
- assist Lamoureux in ensuring the validity and reliability of the evaluation data and information collected
- ensure the design as implemented remains participatory
- provide clarification on the technical aspects of the Project during the evaluation analysis function
- advise on data collected and interim evaluation reports

Advisory Committee will be:

- struck by IDRC with input by Lamoureux and Associates.

- composed of representatives of the three Project stakeholders: (i) the management group; (ii) WAPDA Project implementing staff; and, (iii) BCHIL Project implementing staff

The Advisory Committee, with the involvement of Lamoureux, will nominate Evaluation Team Leaders. These individuals will interact with the three stakeholder groups in order to collect evaluation-related data and information by:

- leading Project evaluation focus groups, including the exact documentation of the group responses
- assisting in the delivery of Project questionnaires
- ensuring adherence to the evaluation output scheduled time lines
- categorizing the information and data received from the focus groups and questionnaires
- forwarding categorized data and information to Lamoureux for analysis

The Evaluation Team Leaders will be:

- appointed by the Advisory Committee
- selected from BCHIL and WAPDA as appropriate

Lamoureux and Associates will be responsible for the design's overall coordination and will provide evaluation monitoring and advice services to the participants. Specifically, and with input from the Advisory Committee, Lamoureux will:

- train Evaluation Team Leaders in evaluation techniques
- monitor the implementation and progress of the participatory self-evaluation design
- provide advise to Advisory Committee
- supervise data and information collection
- conduct one-on-one interviews
- analyze the data and information collected
- write interim evaluation reports

- ensure report content validity and reliability
- write the Final Evaluation Report

1.3 Evaluation Areas

- relationship of outputs to the logical framework analysis (LFA)
- overall goals of the Project
- assumptions driving the Project
- management of the Project
 - human resource management, e.g., communication, working relationships
 - technical management, e.g., hardware sites
- training system
- critical outputs and impacts
- adequacy of inputs
- focus on future related projects
- systematic, organizational and future issues
- use and understanding of Project components
- training outputs
- follow-up
- working relationships
- human resource management
- cultural influence
- timeliness of events/inputs
- adequacy of physical inputs
- use and understanding of Project components

Some of these areas will be combined under larger areas in the delivery of the evaluation.

1.4 The Stakeholder Groups

The participatory self-evaluation design responds to the outcomes of the Lahore Workshop by recognizing the three critical stakeholder groups: (i) the Management Group; (ii) the WAPDA Project Implementing Staff Group; and, (iii) the BCHIL Project Implementing Staff Group. Each has a primary although not exclusive Project evaluation focus as defined by the Workshop participants. That is, within each stakeholder group the Workshop participants, as well as individuals interviewed, designated specific evaluation areas to be reviewed. In addition, some evaluation areas did overlap among the three stakeholder groups, and these were noted.

1.4.1 Management Group

This group includes decision-makers from IDRC, BCHIL management and the WAPDA management. Where appropriate UBC faculty will be included. Their primary evaluation areas focus on:

- relationship of outputs to the logical framework analysis (LFA)
- overall goals of the Project
- assumptions driving the Project
- management of the Project
 - human resource management e.g. communication, working relationships
 - technical management e.g. hardware sites
- training system
- critical outputs and impacts
- adequacy of inputs
- focus on future related projects
- systematic, organizational and future issues

1.4.2 WAPDA Project Implementing Staff Group

These are the individuals within the various Sections whose primary function is to implement the Project in order that it achieve its objective and goals. Their primary evaluation areas will focus on:

- use and understanding of Project components
- training
- follow-up
- working relationships
- human resource management
- cultural influence
- timeliness of events/inputs
- adequacy of physical inputs

1.4.3 BCHIL Project Implementing Staff Group

These are the BCHIL individuals, both engineering and staff, that have been involved in the implementation of the Project. Their primary evaluation areas will focus on:

- use and understanding of Project components
- training
- follow-up
- working relationships
- human resource management
- cultural influence
- timeliness of events/inputs
- adequacy of physical inputs

¹ See: "A Report On the SIHP-II Project Participatory Self-Evaluation Design Facilitation Workshop", IDRC, November, 1995.

² *Validity - measuring appropriate project inputs and outputs*
Reliability - applying a consistent standard of measurement or judgement to the appropriate project inputs or outputs.

Section 2: Evaluation Timeline/Markers

March/April 1996

- Establish Advisory Committee
- Select Evaluation Team Leaders
- Designate interviewer
- Conduct workshops in Canada and Pakistan to acquaint all stakeholders with evaluation design
- Conduct workshop to provide Evaluation Team Leaders with process skills for focus groups
- Conduct initial interviews

April/September 1996

- Monitor submission of data by Evaluation Team Leaders
- Prepare interim reports
- Conduct initial analysis by Lamoureux and Associates
- Monitor data collection from focus groups and questionnaires
- Complete interviews

September 1996/January 1997

- prepare draft evaluation report
- circulate through IDRC draft report
- prepare final report

Section 3: Implementation of Evaluation Process

3.1 Introduction

There are three evaluation processes that will be used in a variety of forms:

- interviews serve the purpose of collecting information from stakeholders who hold an overview of the Project and have input related to global impacts and issues
- focus groups will be used to integrate information related to broad inputs and outputs
- questionnaires will be used to examine specific aspects of the Project as these relate to operationalizing the Project goals

In March/April of 1996, workshops will be held to acquaint stakeholders with these three evaluation process.

3.2 Interviews

Interviews will be used for all the following groups/individuals: IDRC, BCHIL Management, WAPDA Management, and where appropriate UBC faculty. These groups as stated earlier, have a primary focus on global successes and challenges related to the Project.

Interviews will be used to collect information on the following evaluation areas:

- relationship of outputs to the logical framework analysis
- overall goals of the Project
- management of the Project
- critical outputs and impacts
- training
- focus on future related Projects
- systemic and organizational issues
- adequacy of inputs

3.2.1 Interview Structure

The interviews are constructed for completion in approximately one hour. Results will be recorded on an interview schedule to promote accuracy in interpretation. Interviews will be conducted by Lamoureux or by a person designated by the Advisory Committee

Step One: develop from list of questions an individual interview schedule

Step Two: review with interviewee the SIHP-II goals

The main objective of the Project is essentially to strengthen the water resources management capability of WAPDA on the flows from the Upper Indus Basin. The Project document lists several specific goals:

- to determine the stream flow forecasting needs of WAPDA for the Upper Indus Basin
- after review of all past work, to examine known and potential seasonal and short-term flow forecasting systems as a function of WAPDA's operational needs
- to select the optimal solution(s) for stream flow forecasting requirements, and depending upon the results of the above:
- to expand the existing hydrometeorological network to the high altitude snow-covered and glaciated areas
- to install, after proper testing, a communication system for rapid and reliable transmission of mountain hydro-meteorological data to operational run off forecasting centre(s)
- upon determination of positive benefits, to install equipment necessary for reception and analysis of remotely sensed data for run off forecasting purposes
- to establish procedures for the estimation of snow, glacier-melt and rainfall
- to estimate the seasonal and short-term run off volumes arising from snow melt, ice melt, and rainfall by calibrating and testing computer models of the catchments upstream of: the mouth of the Kabul River, the Indus River at Tarbela, and the Jhelum River at Mangla
- to continue some of the applied hydrological research activities within Phase 1 for their integration into the proposed forecasting system
- to train WAPDA personnel in all phases of the Project, so that upon completion they will capably operate, maintain and modify the system, as required, without outside assistance
- to establish strategies for the reservoir operations as a function of scenarios developed by the hydrological model.

Step Three: ask the interviewee to state their involvement in the Project

Step Four: proceed with the interview schedule developed from the following questions (not all questions will apply to all interviewees and additional questions may flow from the interview process)

3.2.1.1 Questions:**Part A for all interviewees:**

1. What are the major successes of this Project?
2. What are the major challenges and issues the Project has faced?
3. What are the major successful contributions of BCHIL to the Project?
4. What are the major successful contributions of WAPDA to the Project?
5. What are the major successful contributions of IDRC to the Project?
6. What were the major challenges for the organizations involved with the SIHP II Project?
7. What lessons have been learned from this Project?
8. How can these lessons be used in the future?
9. Based upon testing outcomes of the model do you think the model will have the impact on water forecasting that you hoped for?
10. What are the long term positive impacts of this Project?
11. What are the long term negative impacts of the Project?
12. How has this Project contributed to Pakistan's Water Management Strategies?
13. If the Project is to be sustained, the personnel, the management, the infrastructure must remain at a level to allow for sustainability.
 - What factors exist in the management structure that will sustain the Project?
 - What skills do the line personnel have that will ensure sustainability?
 - How will the remote sites/model be sustained?
 - What infrastructure/commitment ensures that the remote sites and/or model operation will be sustained after the end of the Project?
14. Describe the benefits and/or shortcomings of the Project's financial administration on the Project's activities.
15. What if anything would you have changed in the initial planning of the Project?
 - What was your involvement in the initial planning of the Project?
16. What has been the effect on this Project of the financial commitment made by CIDA and by Pakistan?
 - How well did the goals of the Project match the financial commitment made by CIDA and by Pakistan?
17. What has been the impact of this Project on groups and organizations beyond H&RD?
18. What needs exist for the future that are related to this Project?

Part B**Additional Questions For Management Directly Involved In Project**

19.
 - a. To what extent have the goals of the Project been met?
 - b. What effect will un-met goals have on the sustainability of the Project?

- c. What unanticipated events emerged that effected the original goals of the Project?
 - How were these events handled within the Project?
- 20. What were the successes and the challenges in the way training was delivered?
- 21. How was the Johnson Management Training Plan used by the SIHP II team members to plan their training?
- 22. Did the training match the needs of the participants?
- 23. How is the UBC Watershed Model's actual performance meeting the anticipated performance?
- 24. If you could change the way in which the Project has been managed, what would you change?
- 25. How well did the accomplishments match:
 - IDRC's Corporate Program Framework?
 - CIDA's Country Planning Framework?

Step Five: categorize answers into the 15 areas of evaluation for future analysis

Interview participants:

Member Water, Mr. Khalid Mohtadullah
 General Manager, Planning, Haji Muhammad Chawdhary
 Chief Engineer, H&WM, Mr. Saleem Warsi
 Chief Engineer, P&I, Mr. Tariq Masood
 Acting Director, H&RD, Mr. Hasnain Afzal
 Project Manager, BCHIL, Dr. Warren Bell
 Former, Project Manager, Bill Thompson
 Former Project Manager, IDRC, Sylvain Dufour
 Current Project Manager, IDRC, Naser Faruqui
 Indus River System Authority, General Manager
 University of British Columbia, Dr. Quick
 IDRC, Training Advisor, Dr. Nancy George
 Vladimir Plesa, Engineer, Maintenance Engineering and Project Power Supply

Others as identified by Advisory Committee will be interviewed.

Note: Dr. Quick of UBC will also be interviewed using training questions only.

3.3 Focus Groups

Data and information will be collected and verified through the use of focus groups. Evaluation Team Leaders will facilitate the groups. The question design is such that each focus group meeting should be approximately one to three hours.

Five focus groups will be used:

- Outputs and Impacts
- Training
- Working Relationship
- Cultural Influence
- Human Resources Management

3.3.1 Focus Group Structure

Step One: Evaluation Team Leader sets time for meeting and distributes questions prior to meeting. Focus groups for different evaluation areas can run concurrently if the same groups of individuals are involved.

Step Two: Evaluation Team Leader reviews with the focus group the goals of SIHP-II:

Step Three: Evaluation Team Leader discusses the goals of a focus group:

- to provide a forum whereby the goals and objectives of the Project can be examined
- to collect evaluation data and information that is agreed upon by the stakeholders who delivered upon the Project
- to place the evaluation comments within the context of the goals of the Project
- to collect data and information that accurately reflects operation and achievements of SIHP-II
- to collect data and information that may not relate to the goals of SIHP-II but impacted the Project

Step Four: Evaluation Team Leader leads the focus group through Focus Group Process. The process will be provided to Evaluation Team Leaders in April workshops conducted by Lamoureux. Team leaders will be provided with:

- focus group techniques
- interviewing techniques
- questionnaire administration
- report writing techniques/format
- develop reliability and validity guidelines

Step Five: Evaluation Team Leader submits reports to Lamoureux and Associates

3.3.1.1 Focus Group for Evaluation Area: Outputs and Impacts

Objectives:

1. to examine the potential impact of SIHP-II on water management strategies
2. to examine the potential environmental impact of SIHP-II
3. to examine if the Project objective and related goals were met

Questions:

1. What were the major successes of this Project?
2. What were the major issues in this Project?
3. What, if any, has been the environmental impact of SIHP-II?
4. Is there any data on the environmental impact?
5. Is there need for a future study on the environmental impact of SIHP II?
6. How did the creation of the annual workplan contribute to the meeting of the Project objectives and related goals?
7. What evidence exists to support the idea that the main goal of SIHP II was met?
8. What were the barriers to meeting the Project goals, e.g. design, implementation, match between goals and Project, etc.?
9. What have been the unexpected benefits of the Project?
10. How do you think SIHP II will impact future water management and/or water management decisions?
11. How will the project be sustained after completion?
12. What are the challenges facing the sustainability of the project?

Suggested Participants:**Canada Focus Group:**

Former Project Manager, IDRC, Sylvain Dufour
 IDRC, Project Manager, Naser Faruqi
 BCHIL, Project Manager, Warren Bell
 BCHIL, Site Manager, William C. Thompson
 BCHIL, Site Manager, Vladimir Plesa

Pakistan Focus Group:

SIHP-II, Former Project Director, Tariq Masood
 SIHP-II, Project Director, H&RD, Hasnain Afzal
 SIHP-II, Senior Engineer, Mr. Jawed Bhatti
 SIHP-II, Senior Engineer, Mr. Anwar Hussain Gillani
 Others as designated by the Advisory Committee

3.3.1.2 Focus Group for Evaluation Area Training**Objectives:**

1. to examine how training needs were established
2. to assess the impact of training delivered
3. to assess the transfer of training to job-related duties
4. to analyze the relationship between training plan and training conducted
5. to examine the benefits of UBC training/collaboration
6. to assess the suitability of documentation supplied

Questions:

1.
 - a. How were the initial training needs established?
 - b. How were the training needs re-examined over the course of the Project?
2. How were the established training needs addressed?
3. How was the training plan used by BCHIL, by WAPDA?
4.
 - a. What were the major impacts of training on individuals?
 - b. What were the major impacts of training on the Project?
5. What was the impact of training on job performance?
6. Was the process used to select individuals for training adequate?
7. What were the major impacts/issues with UBC collaboration?
8. How would you rate the value of training documentation?

The following questions focus on the Training Plan: Planning and Conduct of Individual Training, June 1993.

9. Review Construction and Maintenance and Construction objectives and describe at what level the group has been able to obtain these skills and transfer these skills into their day-to-day functions.
10. Review Installing Master Station and Remote Stations objectives and describe at what level the group has been able to obtain these skills and transfer these skills into their day-to-day functions.
11. Review Testing Electronic Equipment objectives and describe at what level the group has been able to obtain these skills and transfer these skills into their day-to-day functions.
12. Review Data Management objectives and describe at what level the group has been able to obtain these skills and transfer these skills into their day-to-day functions.
13. Review Modelling objectives and describe at what level the group has been able to obtain these skills and transfer these skills into their day-to-day functions.
14. Review Operation objectives and describe at what level the group has been able to obtain these skills and transfer these skills into their day-to-day functions.
15. Review Management objectives and describe at what level the group has been able to obtain these skills and transfer these skills into their day-to-day functions.
16. Review Modify The System objectives and describe at what level the group has been able to obtain these skills and transfer these skills into their day-to-day functions.

Suggested Participants:

Canada Focus Group I

IDRC, Former Project Manager, Sylvain Dufour

BCHIL, Site Manager, Vladimir Plesa

BCHIL, Project Manager, Dr. Warren Bell

BCHIL, Site Manager, William C. Thompson

IDRC, Training Advisor, Dr. Nancy George

BCHIL, Engineer, Les Parmley

Suggested that entire BCHIL team be involved in this focus group

Others as identified by BCHIL or Advisory Committee

Group 2

Training participants as identified by Advisory Committee

Pakistan Focus Group

SIHP-II, Former Project Director, Tariq Masood
WAPDA, Project Director, Hasnain Afzal
WAPDA, Senior Engineer, Anwar Hussain Gillani
WAPDA, Senior Engineer, Jawed Bhatti
Section Heads and designated line staff
Others as identified by WAPDA or Advisory Committee

3.3.1.3 Focus Group for Evaluation Areas: Working Relationships/Cultural Influence

Objectives:

1. to examine working relationships within SIHP-II
2. to examine communication within SIHP-II
3. to examine communication between SIHP-II and other agencies
4. to examine corporate and cultural adaptations within the Project
5. to examine cross-cultural understanding and adaptation as it effected the implementation of the Project.

Questions:

1. What was done to build SIHP-II as a strong team?
2. What aspects of team building were needed but not implemented?
3. How did the information flow within the Project influence the operation of the Project?
4. How did office services affect the implementation of the Project?
5. How were staff oriented to working in another culture?
6. What was the impact of corporate and cultural differences on the Project?
7. What lessons have been learned in this cultural exchange?

Suggested Participants:

Canada Focus Group

IDRC, Former Project Manager, Sylvain Dufour
BCHIL, Former Project Manager, Dr. Warren Bell
IDRC, Project Manager, Naser I. Faruqi
BCHIL, Site Manager, Vladimir Plesa
BCHIL, Site Manager, William Thompson
BCHIL, Engineer, Les Parmley
Others as designated by BCHIL or the Advisory Committee

Pakistan Focus Group

WAPDA, Project Director, Hasnain Afzal
WAPDA, Senior Engineer, Anwar Hussain Gillani
WAPDA, Senior Engineer, Jawed Bhatti
Section Heads and designated line staff
Muhammad Munir
Ghazanfar Ali
Danial Hashmi
Inamullah Khan
Others as identified by WAPDA or Advisory Committee

**3.3.1.4 Focus Group for Evaluation Area:
Human Resource Management****Objectives:**

1. to examine the issues of incentives/recognition for WAPDA staff in SIHP-II
2. to examine role of women in the Project
3. to assess suitability of chosen staff for jobs held
4. to examine decisions related to workload and team size

Questions:

1. What were the positive and negative effects of maintaining a consistent team?
2. What criteria was used to select individuals for SIHP-II? Were these criteria appropriate for the Project?
3. What were the major impacts for individuals involved in SIHP-II?
4. What was the role of women in SIHP?
5. What was the impact of the workload on Canadians and Pakistanis involved in the Project?
6. Did access to incentives or lack of access to incentives impact the success of the Project?

Suggested Participants:**Canada Focus Group**

IDRC, Former Project Manager, Sylvain Dufour
BCHIL, Project Manager, Warren Bell
BCHIL, Site Manager, Vladimir Plesa
BCHIL, Site Manager, William Thompson

Pakistan Focus Group

WAPDA, management person
WAPDA, Jawed Bhatti
WAPDA, Munstasir Usmani
WAPDA, Ashaq Qureishi
WAPDA, Muhammad Munir
WAPDA, Danial Hashmi
Others as designated by the Advisory Committee

3.4 Evaluation Questionnaires

Evaluation questionnaires will be used to collect data and information on SIHP-II that have not been collected through other processes or that need further validation. The questionnaires are narrative in style and allow participants to fully explain their ideas concerning the Project and its implementation. Information will be collected on the following Evaluation Areas:

- Use and understanding of Project components
- Physical inputs and timeliness of events/inputs and follow-up

3.4.1 Questionnaire Structure

- Step One:** Questionnaire will be distributed to participants through the Evaluation Team Leaders.
- Step Two:** Participants are encouraged to compare questions and answers with other participants and provide a collective response for their section if it is applicable.
- Step Three:** Responses are collected by Evaluation Team Leaders and sent to Lamoureux & Associates.

3.4.1.1 Evaluation Area Use and Understanding of Project Components Questionnaire

Instructions: Please provide Lamoureux & Associates with answers to the following questions. You have been a vital part of the Snow and Ice Hydrology Project and your input into the final evaluation is important in analyzing the impact of this Project.

Do not include your name on this document.

You may complete this document individually or as a section group.

Please be specific in your answers and provide examples if it will clarify your point.

Please leave blank any questions that are not applicable to you or you have answered previously.

Please note:

- *the instructions are only entered once in this document but will be entered at the top of each questionnaire*
- *in this document space has not been provided for answers but in actual distribution of questionnaires space will be provided*

To be completed by all:

- A. What are the major impacts of this Project?
- B. What have been the major success of this Project?
- C. What have been the major challenges of this Project?
- D. What are the major sustainability issues for this Project?
- E. What have been the major contributions of your unit to the Project?
- F. What, if anything, is required in follow-up to ensure that the Project is sustainable?

Assessment of Remote Sensing Capability and System Operation

To be completed by:

Canada Participants

BCHIL, Project Manager, Dr. Warren Bell
 BCHIL, Les Parmley
 BCHIL, Heiki Walk
 BCHIL, Dennis Morgan
 BCHIL, Site Manager, Vladimir Plesa
 BCHIL, Site Manager, William Thompson

Pakistan Participants

WAPDA, Project Director, Hasnain Afzal

WAPDA, Danial Hashmi

WAPDA, Muhammad Javaid

WAPDA, Jawed Bhatti

WAPDA, Inamullah Khan

others as designated by the Advisory Committee

1. How did the criteria for site selection effect the effectiveness of the installation and maintenance of the actual sites?
2. Were the site selection criteria useful in the Pakistan conditions?
If so how, If not why?
3. What is the current reliability of the data from the sensors?
4. What is positively or negatively affecting the reliability of the data from the sensors?
5. What has been the impact on the Project of choosing the current sensors?
6. How will the current standard of maintenance be sustained after the project is over?
7. What is the current status of forecasting compared to the projected goals of the Project?
8. How does this current status compare with the Project goals?
9. During the Project, was documentation available to assist the staff in their work. If so how did this assist staff? If not what was the impact of lack of documentation? If so how did this assist staff? If not what was the impact of lack of documentation?

Assessment of Hydrological Model and Data Acquisition

To be completed by:

Canada Participants

BCHIL, Site Manager, Vladimir Plesa

BCHIL, Heiki Walk

BCHIL, Geoff Kyte, National Hydrology Institute

Pakistan Participants

WAPDA, Chief Engineer, Tariq Masood
 WAPDA, Project Director, Hasnain Afzal
 WAPDA, Ghazanfar Ali
 WAPDA, Muhammad Munir
 WAPDA, Danial Hashmi
 others as designated by the Advisory Committee

10. How was the hydrological model selected?
11. Did the process for model selection match the needs of Pakistan for water flow forecasting? (10 day forecasts, long term forecasts, flood forecasts)
12. How can this model adapt over time to meet changing needs in Pakistan?
13. Is the model flexible enough to allow for inter-organizational data transfer? What is the impact of this?
14. What was the impact on the Project of how the characterization of the basins conducted?
15. Is the forecast in a format that meets the needs of end users?
16. What are the impacts and issues related to data quality?
17. How has availability of data effected the outcomes of the Project?
18. How did the processes selected for data processing effect the use of the data?

3.1.1.2 Evaluation Areas: Adequacy of Physical Inputs and Timeliness of events/Inputs Questionnaire

(note: instructions would be repeated here)

To be completed by:

Canada Participants

BCHIL, Project Manager, Dr. Warren Bell
 BCHIL, Site Manager, William Thompson
 BCHIL, Site Manager, Vladimir Plesa

Pakistan Participants

WAPDA, Chief Engineer, Tariq Masood
 WAPDA, Project Director, Hasnain Afzal
 WAPDA, Jawed Bhatti
 WAPDA, Danial Hashmi
 WAPDA, Muhammad Javid
 WAPDA, Muhammad Munir
 others as designated by the Advisory Committee

1. How did the sequencing of events affect the Project?

2. Did the Project proceed within stated time frames? If not why?
3. Did the physical inputs supplied through the Project fit the needs of the forecasting system?
If so how? If not why?
4. How did the computer systems and software affect the success of the Project?

Section 4: Data Analysis

The collected data and information will be reviewed and categorized into the evaluation areas. Each area will then be examined for key/critical observations that are repeated by multiple respondents or in multiple processes. The key/critical observations will become the foundation of the interim and draft evaluation report. This does not preclude including in the reports single observations that are critical to the evaluation.

A first draft report will be circulated to respondents for further input and editing. After editing has been completed a Final Report will be produced. It is the intention that the report reflect the views and information of the participants in the Project and not a quantified evaluation of the Project.